

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (currently amended) A dental cleaning device, prophy chip, mounted on a top of a dental rotary instrument for cleaning, polishing, and burnishing teeth, comprising:

a rotary dental instrument comprising a switch; and

a prophy chip comprising:

 a cup-shaped core with canopy (semispherical), cylindrical, cupped, conical, inverted conical, or disk profile, the core comprising an exterior wall and a hollow interior region;

 a shaft containing a connecting means for connecting the prophy chip to the dental rotary instrument to avoid vibration around a rotation axis of the core during rotation;

 a hydrophilic grindstone sponge covering the exterior wall of the core, wherein the hydrophilic grindstone sponge comprises a grindstone therein; and

 [[an]] a latch plate fixing the hydrophilic grindstone sponge to the core;

 wherein the prophy chip is mounted on a top of the dental rotary instrument for cleaning, polishing, and burnishing teeth, and the hydrophilic grindstone sponge is immersed in water prior to operation or absorbed saliva during operation without using a polishing paste to dissipate heat generated by friction, and wherein the switch is configured to activate the dental rotary instrument to drive rotation of the prophy chip.

Claim 2 (currently amended) The prophy chip dental cleaning device as claimed in claim 1, wherein the hydrophilic grindstone sponge is hydrophilic latex sponge, or polyurethane sponge, and the hydrophilic latex sponge or the hydrophilic polyurethane sponge comprises a grindstone of $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ or $\text{Ca}_{10}(\text{PO}_4)_6\text{F}_2$ as a wet grindstone sponge covering the core.

Claim 3 (currently amended) The prophy chip dental cleaning device as claimed in claims 1 or

2, wherein the hydrophilic grindstone sponge further comprises at least one water soluble agent consisting of a foaming agent, a sweetener, a fragrance, a medicament for inhibiting or preventing periodontal diseases or dental caries, or a coating agent.

Claim 4 (currently amended) The ~~prophy chip~~ dental cleaning device as claimed in claims 1 or 2, wherein the exterior wall of the core is reticular or porous and at least one water soluble agent consisting of a foaming agent, a sweetener, a fragrance, a medicament for inhibiting or preventing periodontal diseases or dental caries is disposed in a hollow interior region of the core.

Claim 5 (currently amended) The ~~prophy chip~~ dental cleaning device as claimed in -claim 1, wherein an outside of the core is nonwoven to maintain the hydrophilic grindstone sponge and has hydrophilicity and flexibility.

Claim 6 (currently amended) The ~~prophy chip~~ dental cleaning device as claimed in claim 1, wherein an outside of the hydrophilic grindstone sponge covering the core is a three-dimensionally continuous, porous film for conducting a solution from a flexible polishing agent.

Claim 7 (currently amended) The ~~prophy chip~~ dental cleaning device as claimed in claim 1, wherein a coating agent is disposed in the hollow interior region of the core.

Claim 8 (currently amended) The ~~prophy chip~~ dental cleaning device as claimed in claim 1, wherein the core is filled with a water-retaining material immersed in a water soluble agent, wherein the water soluble agent is releasable from a surface of the hydrophilic grindstone sponge covering the core.

Claim 9 (currently amended) The ~~prophy chip~~ dental cleaning device as claimed in claim 1, wherein the hydrophilic grindstone sponge is folded over an edge of the wall into the hollow interior region of the core and gripped by the latch plate.

Claim 10 (currently amended) The ~~prophy chip~~ dental cleaning device as claimed in claim 1,
wherein the core is directly connected to the shaft.